INFORMATION FOR

CROW CREEK WRF

BIOSOLIDS ANNUAL

REPORT

2014

PERMIT No. WY-SL-2281

Board of Public Utilities
WATER RECLAMATION DIVISION
Box 1469, 2416 Snyder Ave, Cheyenne, WY 82003 (307) 637-6460
Dry Creek Water Reclamation Facility, 8911 Campstool Rd. (307) 635-3163
Cheyenne, WY 82007 Facsimile (307) 635-6833

January 20, 2015

EPA Region 7
ATTN: Biosolids Center
WWPD/WENF
11201 Renner Boulevard
Leonexa, Kansas 66219

DEQ/Water Quality
122 W. 25th street
Herscehel Building 4th Floor West
Cheyenne, WY 82002

RE: Biosolids Annual Crow Creek Report Permit No. WYSL – 2281

Biosolids produced in 2014 for Crow Creek was Zero.

Crow Creek WRF sludge volume flow is diverted to Dry Creek WRF interceptor line for further treatment and process control.

Crow Creek total gallons in 2014 were 149,745,609 gallons. Check attached sheet.

A new control building, influent flow meter, two new bar screens, and one new grit machine was added to the Crow Creek WRF in 2014.

Jim Hughes Division Manager Dry Creek WRF

Phil Clark Compliance Supervisor Dry Creek WRF

Prepared By: Chet Barkell Biosolids Program Coordinator; Dry Creek WRF

PRIMARY CLARIFIERS AND DRUM THICKENERS' SLUDGE PUMPED TO DIGESTER AT THE DRY CREEK WATER RECLAMATION FACILITY IN 2014						
					Inf. Flow	Sludge Monthly
MONTH	GALLONS	DMT	%SOLIDS	LBS	Monthly Average	Aver.Temperature
Jan	1,670,100	269.15	4.26	593,368	4.72	92
Feb	1,515,300	252.80	4.41	557,318	5.09	89
Mar	843,600	108.51	3.4	239,211	5.67	89
Apr	717,900	113.52	4.18	250,269	5.71	91
May	704,400	116.45	4.37	256,724	6.41	97
Jun	645,900	113.62	4.65	250,486	5.68	94
Jul	733,800	122.14	4.4	269,275	5.28	96
Aug	966,000	137.40	3.76	302,922	5.24	96
Sep	725,100	118.77	4.33	261,850	4.33	95
Oct	773,100	121.96	4.17	268,867	5.00	96
Nov	645,900	104.09	4.26	229,478	4.81	96
Dec	649,200	118.38	4.82	260,971	4.73	94
Total	**10,590,300**	**1696.79**		**3,740,739**	**5.22**	**94**

CROW CREEK WATER RECLAMATION FACILITY, PRIMARY AND SECONDARY SLUDGE FROM CLARIFIERS ARE BEING PUMPED TO DRY CREEK WATER RECLAMATION FACILITY TO BE FURTHER PROCESSED. THE SLUDGE IS DISCHARGED IN THE INTERCEPTOR LINE TO DRY CREEK WATER RECLAMATION FACILITY. THE TOTAL SOLIDS FROM CROW CREEK WATER RECLAMATION ARE CALCULATED AS AN ESTIMATE OF A CONSERVATIVE .2 PERCENT OF SOLIDS.

						Crow Creek Flow
Crow Creek	**2014**				Inf. Flow	To
MONTH	GALLONS	DMT	%SOLIDS	LBS	Monthly Average	Dry Creek
Jan	15,209,091	115.07	0.2	253,688	3.32	1.03
Feb	11,365,047	85.99	0.2	189,569	3.34	1.01
Mar	12,907,793	97.66	0.2	215,302	2.72	1.44
Apr	11,916,045	90.16	0.2	198,760	2.58	1.71
May	12,065,055	91.28	0.2	201,245	3.11	1.85
Jun	11,229,288	84.96	0.2	187,305	3.22	1.11
Jul	12,081,597	91.41	0.2	201,521	3.40	1.23
Aug	13,900,865	105.17	0.2	231,866	3.17	1.21
Sep	14,104,993	106.72	0.2	235,271	2.83	1.11
Oct	12,507,812	94.63	0.2	208,630	2.77	1.21
Nov	11,383,200	86.13	0.2	189,872	3.15	0.99
Dec	11,074,823	83.79	0.2	184,728	2.99	0.99
Total	**149,745,609**	**1,132.98**		**2,497,757**	3.05	1.24
Dry Creek	**10,590,300**	**1,696.79**		**3,740,739**	3.30	1.34
Final Total	**160,335,909**	**2,829.77**		**6,238,496**		

Crow Creek 2014 Labeling Map

1. Old Control building/Digester (out of Service)
2. Influent Pumping station
3. New Control building/New Pretreatment building
4. Old Pretreatment
5. Reuse Building (sand Filters)
6. Primary Clarifiers
7. Anoxic train/MBBR Basins
8. Blower Building
9. Secondary Building
10. UV Building
11. Reuse pumping Building/Sodium Hypochlorite Building
12. Reuse Storage Tanks
13. Drying Beds (Grease, Emerald Effluent, sediment.

Attachment: #4.
Dry Creek Water Reclamation Facility

F. Pathogen reduction is accomplished through anaerobic digestion. The primary and secondary digested sludge is treated in the absence of air for mean cell residence time and temperature between 25 and 35 days at 92 to 100 degrees Fahrenheit. Air dried sludge is obtained with a tractor aerator on paved drying beds and on site unpaved storage area in windrows that are turned approximately once a month dependant on the weather conditions.
The Biosolids production (dry weight) at the Dry Creek WRF is over 1500 metric tons a year. Therefore samples are collected six times a year (February, April, May, June, August, October, and December). The laboratories analyze the dry samples for metals, nutrients, organics pathogens, volatile solids and total solids.

CERTIFICATION STATEMENT

I certify under the penalty of law, that the pathogen requirements in Part I.C.3, the management practices in Part I.D (if necessary) (including the practice in part I. D.13 if the table 4 annual pollutant limits are used) and the site restrictions in Part I.C.2 (if necessary) have been met. This determination has been made under my direction and supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information used to determine that pathogen requirements, the vector attraction reduction requirements, the management practices and the site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment.

Jim Hughes, Water Reclamation Division Manger

Attachment: #5.
Dry Creek Water Reclamation Facility

G. Vector attraction reduction requirements are met through anaerobic digestion when there is thirty eight percent or more reduction in volatile solids. Volatile solids destruction is measured weight by volume average ((Vol. Solids Reduction = VS in - VS out / (VS in -((VS in * VS out))(Use Average). The sludge is also air dried in windrows for further vector attraction reduction. The dry solids in windrows are between 65% to 80% total volatile solids reduction before land application.
RE: Flows From: Primary North and Primary South Raw sludge Average: Total solids (change % to Mg/l (10000) (NRS & SRS): Total Vol Solids (NRS & SRS): Total C-2 (wasting) cake flow gal: C-1 (digested) Solids (mg/L) cake: C-1 Vol solids cake (mg/L): C-2 solids cake (mg/L): C-2 Vol Solids cake (mg/L) Cake flow from Rotary Drum Thicker to digester.

CERTIFICATION STATEMENT

I certify under the penalty of law, that the pathogen requirements in Part I.C.2, one of the vector attraction reduction alternatives in Part I.C.3, the management practices in part I.D (if necessary) (including the practices in Part I.D.13 if the table 4 annual pollutant limits are used) and the site restrictions in part I.C.2 (if necessary) have been met. This determination has been made under my direction and supervision in accordance with the information used to determine that the pathogen requirements, the vector attraction reduction requirements, the management practices and the site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment.

Jim Hughes, Water Reclamation Division Manger

Attachment: #6.
Dry Creek Water Reclamation Facility

H. Best management practices are accomplished by applying biosolids at a whole sludge application rate that is less than or equal to the agronomic rate for the specific site and plant species. The Biosolids are applied so that it does not adversely affect a threatened or endangered species.

Biosolids are not dispersed on sites that are flooded or snow covered, frozen ground with a slope of three percent or more to prevent run off into wetland or surface water. A buffer zone of thirty-five feet from waterways, stock wells, and surface water is observed. Biosolids land applications are prohibited to sites where the available phosphorous content of the existing soil exceeds 400 pounds per acre.

Stored Biosolids on the plant facility remain in windrows for two years or less. The Biosolids are land applied in the winter, spring and fall of the year, weather permitting. Biosolids and soil are analytically tested before disposal. Cheyenne's sludge management practice ensures compliance with both Federal and State parameters and provides for long term Biosolids procedures with little or no detriment to the environment, while enhancing the native grass and field crop production of those participating ranchers and farmers who utilize Biosolids as a fertilizer supplement and soil conditioner.

CERTIFICATION STATEMENT

I certify under the penalty of law that the pathogen requirements in Part I.C.2, one of the vector attraction reduction alternatives in Part I.C.3, the management practices in part I.D (if necessary) (including in the practices in Part I.D.13 if the table 4 annual pollutant limits are used) and the site restrictions in Part I.C.2 (if necessary) have been met. This determination has been made under my direction and supervision in accordance with the system designed to assure that qualified personal properly gather and evaluate the information used to determine that the pathogen requirements, the management practices and the site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment.

Jim Hughes, Water Reclamation Division Manger